# Development and Redevelopment Projects Storm Water Management Standards Requirements Manual

Manual for Permanent Storm Water Management BMPs & Construction Standards Requirements

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# I. INTRODUCTION

## 1. Storm Water Standards Manual Organization

This manual is intended to generally provide information to applicants for development, redevelopment, and public projects processed through the City, on how to comply with the permanent and construction storm water requirements. This manual further guides the project applicant through the selection, design, and incorporation of storm water BMPs into the project's design plan. The underlying authority which governs projects is the National Pollutant Discharge Elimination System (NPDES) Municipal Permit, Order No. 2001-01 and the Standard Urban Storm Water Mitigation Plan (SUSMP).

Section I, "Introduction," provides storm water pollution background information and legal or regulatory requirements associated with storm water pollution control.

Section II, "Project Review & Permitting Process," outlines the project plan review and approval process for private and public development and redevelopment projects. Applicants should use Section II as the roadmap to navigate through this manual and ensure storm water requirements are accurately and efficiently incorporated into their projects during project review. The remaining sections provide technical information necessary to incorporate the storm water requirements in the review process outlined in Section II.

Appendix A, the "Storm Water Requirements Applicability Checklists and Forms," contains forms 5500 through 5505 that must be completed, signed by the responsible party for the project, and submitted with the permit application to determine if the project is subject to permanent and construction storm water best management practice (BMP) requirements. For public projects, the City project manager must complete the applicable forms of Appendix A, to determine if the City project is subject to permanent and construction storm water best management practice (BMP) requirements.

Appendixes B & B1, (Standard Urban Storm Water Mitigation Plan (SUSMP), and Standards Permanent Storm Water BMPs) describe the permanent storm water BMP requirements, which are organized into a progression intended to dovetail with a typical project planning and design process to maximize storm water protection while minimizing project costs.

Appendix C "Construction Storm Water BMP Performance Standards," describes the City's construction storm water BMP standards that must be assured for private and public development and redevelopment projects, during wet and dry seasons

Appendix D "Implementation and Maintenance Requirements" describes how implementation and maintenance of construction and permanent best management practices must be assured for development and redevelopment projects.

Other appendices and attachments to the Storm Water Standards Manual contain information that is either necessary or designed to provide guidance in completing the storm water requirements in this manual.

## 2. Background

Urban runoff discharged from municipal storm water conveyance systems has been identified by local, regional, and national research programs as one of the principal causes of water quality problems in most urban areas. The City of Chula Vista's storm water conveyance system, which collects runoff and rainwater from our streets, rooftops, driveways, parking lots, and other impervious areas, flows directly to creeks, rivers, beaches, and bays (San Diego Bay) without receiving treatment (The City's storm water conveyance system is separate from the sanitary sewer system). Urban runoff potentially contains a host of pollutants like trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals. These contaminants can adversely affect receiving and coastal waters, flora and fauna, and public health. Urban runoff pollution is not only a problem during rainy seasons, but also year-round due to many types of urban water use that discharge runoff to the storm water conveyance system.

Land development and construction activities significantly alter drainage patterns and contribute pollutants to urban runoff primarily through erosion and the removal of existing natural vegetation during construction, and the creation of new impervious surfaces, such as parking lots, which often permanently contribute pollutants throughout the "use" of the project site. When homes, work places, recreational areas, roads, parking lots, and structures are built, new impervious areas are built- creating the potential for a "double-negative" impact to water quality. First, the natural landscape's ability to infiltrate and cleanse storm water and urban runoff is "capped" by the impervious surfaces. As impervious surfaces increase, water that normally would have percolated into the soil where it could be naturally filtered now flows over the land surface directly to downstream wetlands, creeks, and eventually the Pacific Ocean. Accordingly, increases in impervious cover can increase the frequency and intensity of storm water flows. Second, new impervious surfaces often become a source of pollutants associated with development such as, automotive fluids, cleaning solvents, toxic or hazardous chemicals, detergents, sediment, metals, pesticides, oil and grease, and food wastes. These pollutants, which are often temporarily captured on impervious surfaces, are transported to the storm water conveyance system by storm water and urban runoff. The pollutants flow untreated through the storm water conveyance system and ultimately into creeks, rivers, beaches, and bays. With the growing concerns of urban runoff and storm water pollution, local, state, and federal agencies devised regulations requiring development planning and construction controls to treat storm water-related pollution from new development projects before it reaches any receiving waters.

The Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit (Municipal Permit), issued on February 21, 2001 to the City of Chula Vista, the County of San Diego, the Port of San Diego, and 17 other cities in the region by the San

Diego Regional Water Quality Control Board (Regional Board), requires the development and implementation of storm water regulations addressing storm water pollution issues in development planning and construction associated with private and public development projects. Specifically, private and public development projects are required to include storm water best management practices (BMPs) both during construction, and in the projects permanent design, to reduce pollutants discharged from the project site, to the maximum extent practicable. The primary objectives of the Storm Water Standards manual requirements are to: (1) Effectively prohibit non-storm water discharges; and (2) Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable (MEP statutory standard) both during construction and throughout the use of a developed site. To address pollutants that may be generated from new development once the site is in use, the Municipal Permit further requires the City to require implementation of a series of permanent BMPs described in a document called the Chula Vista Standard Urban Storm Water Mitigation Plan (SUSMP) based on a Model SUSMP that was approved by the Regional Board on June 12, 2002.

The City's Storm Water Standards manual is intended to generally provide information on how to comply with the City's permanent and construction storm water BMP requirements, including the SUSMP requirements, for new private and public development projects in the City of Chula Vista. The effective date of the Storm Water Standards manual is December 9, 2002, and applies to all projects requiring any permit approvals on or after December 9, 2002, regardless if the project is currently under review or if previous approvals have been obtained.

### 3. Legal Framework

The requirement to implement storm water BMP requirements for development projects is based on Section 402 (p) of the Clean Water Act. The Federal Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. Under the Federal Clean Water Act, municipalities throughout the nation are issued a Municipal NPDES Permit. The primary goal of the Municipal Permit is to stop polluted discharges from entering the storm water conveyance system and local receiving and coastal waters. In California, the State Water Resources Control Board (SWRCB), through the nine Regional Boards, administers the NPDES storm water municipal permitting program.

Pursuant to the San Diego Municipal Permit issued by the San Diego Regional Board, the City is required to develop and implement construction and permanent storm water BMPs addressing pollution from private and public development and redevelopment projects.

## II. PROJECT REVIEW & PERMITTING PROCESS

City of Chula Vista Municipal Code Section 14.20.120.A. makes it unlawful for any person not to comply with the Best Management Practices (BMPs) and pollution control requirements established by the City or other responsible agency to eliminate or reduce

pollutants entering the City's storm water conveyance systems. It further provides that BMPs shall be complied with throughout the life of the activity. These storm water pollution prevention requirements, which are described in detail in the following sections, appendices, and attachments are site specific and vary based on the project's potential impact on receiving water quality. The steps below describe the elements of the plan review and permitting processes for storm water best management practice (BMP) requirements. Figure 1, Review Process For Development and Redevelopment Projects, demonstrates how construction and permanent storm water requirements are incorporated into projects requiring subdivision approvals, development permits, or other approval process, and construction permit.

Public projects are also subject to the requirements of the Storm Water Standards manual, and although this manual is designed to address the development review process for private projects, City project managers will use this document to identify storm water requirements to be incorporated into capital improvement projects.

**Step 1: Determine Applicable Storm Water BMP Requirements**

Prior to submittal, applicants must complete the applicable Forms 5500 through 5505 of Appendix A "Storm Water Requirements Applicability Checklists and Forms," to determine if their project is subject to permanent and construction storm water best management practice (BMP) requirements. (Note: this form must be completed for all permit applications, even if previous approvals exist. Projects with previous approvals will be required to comply with the storm water requirements in this document). The applicable Forms must be completed, signed by the responsible party for the project, and submitted to the City with the permit application. For private projects, the project design must include all required permanent BMPs in order for the application package to be deemed complete. For public projects, the City project manager will review and approve the required BMP information prior to bidding for construction contracts.

A. Permanent Storm Water BMP Requirements

*i. Standard Requirements.* Projects subject to standard permanent storm water requirements must incorporate all applicable requirements in Appendix B1 "Permanent Standard Permanent Storm Water BMPs" into the project design. Refer to Step 2: "Prepare & Submit Appropriate Plans," for guidance in the BMP design process.

*ii. Priority Project Requirements.* Projects subject to priority project permanent storm water requirements must incorporate all applicable requirements in Appendix B (SUSMP Requirements), into the project design. This includes the site design and source control BMPs, BMPs applicable to individual priority project categories, and treatment control BMP requirements. If a priority project meets more than one priority project category definition, the project is subject to all BMPs applicable to individual priority project categories that apply. For example, if a project is proposing to build 50 attached residential units and a 6,000 square foot restaurant with a 70-space surface parking lot, the project would be subject to the individual priority project category BMP requirements

for “Attached Residential Development,” “Restaurants,” and “Parking Lots”. Refer to Step 2: “Prepare & Submit Appropriate Plans,” for guidance in the permanent BMP design process.

B. Construction Storm Water BMP Requirements

Projects subject to the construction storm water best management practices requirements must comply with the standards included in Appendix C, “Construction Storm Water BMP Performance Standards,” as appropriate depending on the site conditions, season, project design, and construction methods. Each project will be given a priority ranking (high, medium or low) for the construction phase (see Form 5505 of Appendix A). The prioritization will determine the inspection frequency by City staff but will not change the construction BMP requirements. Refer to Step 2: “Prepare & Submit Appropriate Plans,” for guidance to ensure construction BMP performance standards are met.

**Step 2 – Prepare & Submit Appropriate Plans.**

After determining the general categories of storm water requirements that apply to the project in Step 1 (e.g., construction BMPs, standard permanent BMPs, and/or priority project permanent BMPs), refer to the instructions in this step (see below) to determine what analysis and/or specific BMP requirements in Appendixes A, B, B1, C & D of the Storm Water Standards manual must be provided and/or incorporated into the project. Projects are only required to provide applicable BMPs. For example, an attached residential development project subject to the priority project requirements would not have to meet the “private road” requirements in this manual if no private roads were proposed. In addition, the City may approve proposed alternatives to the BMP requirements in this manual if they are determined by the City to be applicable and equally effective.

A. Permanent Storm Water BMPs

Permanent Best Management Practices Selection Procedure (refer to Appendixes B & B1, as applicable) contains a process for reviewing the project site’s location and preliminary project design before progressively identifying and incorporating site design BMPs, source control BMPs, requirements for individual priority project types, and treatment control BMPs into the project design. The procedure is organized so that the level of analysis required is commensurate with the potential pollutant type and quantity, the location of the project relative to sensitive receiving waters, and with the type of storm water requirements that apply to a particular project.

*i. Standard Requirements (refer to Appendix B1*). Development Projects subject to permanent standard BMP requirements must complete and incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. The City may approve proposed alternatives to the BMP requirements in this manual if they are determined by the City to be applicable and equally effective. Also, additional

analysis or information may be required by the City to enable staff to determine the adequacy of proposed BMPs, and will be requested through the project review process.

*ii. Priority Project Requirements (refer to Appendix B).* Development Projects subject to the priority project permanent BMP requirements must complete all of the analyses required in Appendix B (SUSMP Requirements). Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. In addition, developers of projects subject to priority project requirements must prepare and submit to the City a Water Quality Technical Report (WQTR) in accordance with Attachment B1 of Appendix B of the Manual. Analysis of the project's anticipated pollutants of concern, anticipated pollutants of concern in downstream receiving waters, and conditions of concern, must also be included in the Water Quality Technical Report as part of the project submittal.

B. Construction Storm Water BMPs (refer to Appendix C)

Appendix C, "Construction Storm Water BMP Performance Standards," describes the construction site management requirements that must be met. In addition, Appendix C lists the performance standards that construction sites must meet, and provides a list of erosion control, sediment control, and materials management BMPs for reference. Additionally, each project will be given a priority of high, medium or low (see Appendix A). (Note: Prioritization of construction projects will determine the inspection frequency by City staff and may be changed by the City during the construction process based on the potential for pollutants to be discharged from the site.)

*i. Construction Projects over 5 Acres (until March 10, 2003 – see below).* Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be implemented in accordance with the performance standards in Appendix C, "Construction Storm Water BMP Performance Standards." If a project disturbs 5-acres or more (to be reduced to 1-acre on March 10, 2003), the applicant must provide a Storm Water Pollution Prevention Plan (SWPPP), which identifies all construction BMP requirements required by Appendix C, in accordance with Order No. 99-08-DWQ of the State General Permit for Storm Water Discharges Associated with Construction Activity (State General Construction Permit). Consistent with the State General Construction Permit, the City will require that both erosion and sediment control BMPs be installed and maintained for all applicable projects in addition to good housekeeping and site and materials management. Form 5503 in Appendix A provides general guidelines for preparation of a SWPPP as well as a more detailed checklist to meet the requirements.

*ii. Construction Projects under 5 Acres (until March 10, 2003 – see below).* Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be implemented in accordance with the performance standards in Appendix C, "Construction Storm Water BMP Performance Standards." For projects that disturb less than 5-acres (to be reduced to 1-acre on March 10, 2003), and are determined by the City to have a potential to impact water quality during construction,

the applicant must provide and complete Construction Storm Water Management Plan (CSWMP), which identifies all construction BMP requirements required by Appendix C, with the project submittal. The CSWMP shall depict the BMPs to be implemented during construction to reduce/eliminate discharges of pollutants to the storm drain conveyance system. The CSWMP shall include but not be limited to erosion and sediment control BMPs, good housekeeping measures and site and materials management (See Form 5504 in Appendix C of the Manual).

After preparing plans and supporting documents according to the requirements in this manual, submit plans to the City for review (See Step 3).

**Step 3 – Determine Adequacy of Proposed Plans.**

The City will review submitted plans for compliance with the applicable storm water requirements contained in this manual. The City may approve proposed alternatives to the BMP requirements in this manual if they are determined by the City to be applicable and equally effective. Additional analysis or information may be required by the City to enable staff to determine the adequacy of proposed BMPs, and will be requested through a project issues report following the conclusion of a staff review cycle. After all storm water requirements have been approved by the City, proceed to Step 4 to assure implementation and maintenance of the approved BMPs through permit conditions, plan notes, and if necessary, maintenance agreements.

**Step 4 -- Assure Implementation & Maintenance of Requirements.**

Applicants must provide assurances that permanent storm water BMPs will be constructed and permanently maintained throughout the use of a developed site, and that construction BMPs will be implemented and maintained until construction is complete. Construction and permanent BMP requirements as described below must be assured during the development projects review processes. After the City has approved all construction and/or permanent BMPs, refer to Appendix D ("Implementation & Maintenance of Requirements") to determine how construction and permanent BMP implementation and maintenance will be assured.

A. Private Development Projects

Permanent storm water requirements shall be incorporated into the project design and be shown on the plans prior to the issuance of any permits. If the project will be required to provide construction BMPs, the permit/approval shall include a "Standard Construction BMP Implementation And Maintenance Condition" (refer to Appendix D) In addition, permanent BMPs maintenance requirements shall be noted on the plans. Any construction and non-structural BMPs requirements that cannot be shown graphically must be either noted or stapled to the plans and made a condition of the permit/approval process, as applicable.

Also, in the Covenants Conditions and Restrictions (CC&Rs) document and Maintenance Agreements or other mechanism, the following requirements shall be included and addressed:

- Include requirements for compliance with non-structural permanent BMPs.
- Provide for long-term maintenance of structural BMPs.
- Require future tenants or owners to comply with the Standard Urban Storm Water Mitigation Plans (SUSMP) and Numeric Sizing Criteria of the Municipal Permit, Order No. 2001-01.

B. Public Development Projects

For public projects, permanent as well as construction BMP requirements will be incorporated into the project design and shown on the plans prior to bidding for construction contracts, or equivalent. Public project contracts will also add the requirement for the project to implement and maintain construction BMP requirements in accordance with this manual. Construction and permanent BMP maintenance requirements will be noted on the plans. A signature by the responsible Department/Section will be required on all final plans that signifies compliance with storm water requirements.